

state enhancement grant assessments and strategies



MARINE DEBRIS



NOAA / NOS / Office of Ocean and Coastal Resource Management
Coastal Programs Division

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Overview

This report describes the changes to state, territory and commonwealth coastal zone management (CZM) programs to reduce the amount of marine debris in the coastal zone that were completed or initiated during the time frame of Federal fiscal years 1992-1996. These changes were characterized by the States in the last round of Assessments, which were submitted to OCRM in February of 1997. If Strategies were developed for reducing the amount of marine debris, the planned activities are also summarized.

Ensuring that coastal waters, public beaches, coastal-bordering parks, harbors, ports, and marinas are free of debris is an important objective for state, territorial and commonwealth CZM programs. Marine debris originating from vessels at sea and from recreational boaters and land-based activities fouls coastal waters, reduces water quality, threatens shellfish beds, and can force closure of beaches. States and territories are encouraged to reduce marine debris by managing uses and activities that contribute to entry of such debris into coastal areas.

The National Coastal Zone Management Program (CZMP) is a voluntary partnership between the Federal government and the 35 U.S. coastal states, territories, and commonwealths authorized by the CZMA to:

- Preserve, protect, develop, and where possible, restore and enhance the resources of the Nation's coastal zone for this and succeeding generations;*
- Encourage and assist the States to exercise effectively their responsibilities in the coastal zone to achieve wise use of land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development;*
- Encourage the preparation of special area management plans to provide increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas and improved predictability in governmental decision-making; and*
- Encourage the participation, cooperation, and coordination of the public, Federal, State, local, interstate and regional agencies, and governments affecting the coastal zone.*

In the 1990 reauthorization of the CZMA, Section 309 was amended to create the Coastal Zone Enhancement Program. Its intent was to provide incentives to States to make improvements to their coastal programs in any of eight areas of national significance (a ninth was added in 1996), including marine debris. As a part of the Section 309 grant process, periodically all the coastal programs must develop Assessments — a critical examination of each of the nine enhancement areas. The Assessments provide a comprehensive review of activities previously performed by the CZM program (with particular emphasis on 309-funded efforts), identify specific impediments or needs, and present a general characterization of the adequacy of the State's management framework for that area. The Assessments conclude with a ranking of the area as high, medium, or low, based on its importance in the State; the need to improve the State's ability to manage the area, and the suitability of using the Section 309 program as the means to address it. For those issues ranked as a high priority for Section 309 purposes, States develop multi-year Strategies, laying out a framework for activity and funding levels which, at the project's conclusion, should lead the State to specific program changes' that also are defined.

Improvements to state coastal programs are generally intended to encompass new or strengthened laws, regulations, or other enforceable policies at the state (and local) level. In the case of marine debris, states and territories are encouraged to develop or revise programs to reduce littering, to require or encourage recycling and the reduction of wasteful packaging, to develop regulations consistent with the Marine Plastic Pollution Research and Control Act of 1987 (MARPOL), or to incorporate marine debris concerns into harbor, port, marina, and coastal solid waste management plans.

The report is broken down into four parts. The first section contains state-specific summaries, organized by Region. The summaries generally characterize the marine debris issue; briefly outline the activities undertaken/initiated between 1992 and 1996 (highlighting those that were 309-funded); identify obstacles to reducing marine debris and the need for specific refinements to improve programs for reducing marine debris; and if applicable, detail the State's strategy for achieving those improvements (or other planned activities). A State contact is included for the purposes of obtaining additional information.

The second section compiles the efforts to reduce marine debris for all the states, and if applicable, their Strategies, and reorganizes them into five general areas of management: (1) research and assessment; (2) planning; (3) regulatory; (4) non-regulatory; and (5) education and outreach efforts.

The third section pertains to obstacles and needs. Brief descriptions of impediments to or areas for improvement in achieving reductions in marine debris were compiled from the Assessments,

The report concludes with a table which provides a snapshot of the overall distribution of marine debris projects by State and type, including distinguishing between Section 309-funded and non-309 funded.

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state summaries



northeast

Connecticut

309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

The marine debris problem in Connecticut is not as great as in many other coastal states because of its unique geography. The presence of Long Island south of Connecticut and the partially restricted passage from the Atlantic Ocean to Long Island Sound serve to protect the state from ocean-generated waste. Connecticut beach cleanup statistics from 1990 reveal that 63 percent of the debris collected on the state's shoreline consisted of plastic, with paper and metal objects being the next most abundant items.

State Activities 1992 to 1996

Although no section 309 funds were used, state and local recycling and anti-littering programs, the annual Coastweeks Beach Clean-up, and existing combined sewer overflow abatement programs have continued. Marine debris abatement projects were developed as were projects involving stormwater and storm drains.

Marine debris abatement issues are highlighted in a marina best management practices (BMPs) manual and appropriate BMPs continue to be incorporated into harbor management plans and as conditions of state authorizations for marinas.

Stormwater general permits were developed by the Department of Environmental Protection in October 1992 and continue to be administered.

The Long Island Sound Fund provided funding for several storm drain stenciling projects.

Connecticut has developed a technical guidance manual which identifies floatable debris as an important issue in the stormwater and marina chapters. The need for this document resulted from the passage of state legislation that requires zoning regulations and plans of development in towns contiguous to Long Island Sound to be developed with consideration for protection and restoration of the ecosystem.

The State has several department-wide projects to

reduce marine debris, including the recommendations included in the Long Island Sound Study's Comprehensive Conservation and Management Plan adopted in 1994.

Obstacles/Needs

None

Summary of Strategy

None

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Delaware

309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

Delaware considers the health, aesthetic, resource damage, manpower and monetary impacts of marine debris in the State to be insignificant.

State Activities 1992 to 1996

Although no section 309 funds were used, the State continues to expand its recycling programs and has amended the Delaware Marina Regulations.

The *Recycle Delaware* program continues to expand. The number of voluntary drop-off recycling centers operated by the Delaware Solid Waste Authority (DSWA) has been increased to 140 sites.

The DSWA has begun a second series of pilot programs to collect household hazardous wastes with the selection of Rollins Environmental Services, Inc, to operate two pilot programs in New Castle County.

The amendments to the Delaware Marina Regulations pertaining to solid waste require that the storage, handling and disposal of solid wastes be in strict accordance with the Department's **Regulations Governing Solid Waste**.

Delaware's state parks have adopted a carry in/carry out program for all public waste.

Obstacles/Needs

None

Summary of Strategy

Because of Delaware's successful programs for reduction of solid waste and favorable results of beach clean-ups and wetland adoptions, the State does not have a major problem with marine debris.

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Maine

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low

1997 Assessment: Low

Issue Characterization

There have been no significant changes in the sources of marine debris or their impacts since the 1992 Assessment. Debris from commercial fishing remains the most significant threat to marine resources, and it can also detract from the visual appeal of the coast. Miscellaneous trash from land-based sources can also have a significant aesthetic impact.

State Activities 1992 to 1996

Although no section 309 funds were used, the State has passed legislation and municipalities have enacted local ordinances requiring recycling and a reduction of toxins in packaging, has continued an annual Coastal Cleanup, and has published a marina handbook.

Since 1994, the Waste Management Act requires the State and local governments to divert nickel-cadmium batteries for recycling.

The Reduction in Toxins in Packaging law provides incentives to use packaging manufactured from recycled feed stock and packaging that can be reused.

The State Planning Office continues to organize the Coastal Cleanup effort to educate the public about marine debris issues.

The State Planning Office developed a marine debris educational display which is circulated to libraries and exhibited at local fairs.

The Department of Environmental Protection published a marina handbook that includes guidance on managing solid waste generated by marinas and boaters.

The Gulf of Maine Council on the Marine Environment and the Maine Coastal Program initiated local projects in Portland, Rockland, Eastport, and Stonington to reduce marine debris by installing recycling bins and waste oil collection stations.

Obstacles/Needs

There is a lack of public recognition that marine debris is a problem.

The State statute that prohibits meddling with lobster equipment hampers efforts to clean the coast of lobster traps that have broken loose and washed ashore.

Summary of Strategy

Expand the number of volunteers and miles covered in the annual Coastal Cleanup by working in partnership with public and private organizations and the commercial fishing industry. Expand public awareness of the marine debris issue by targeting education efforts at major marine user groups such as fishermen, beach goers, and boaters.

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Maryland

309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

An increase in the number of storms in 1996 sent large amounts of debris into the Chesapeake Bay. Structures, trees, and other debris washed down the Susquehanna River during floods creating a significant impact on the coastal zone. This debris created serious hazards to navigation, was aesthetically displeasing, and could have created a health hazard.

State Activities 1992 to 1996

Although no section 309 funds were used, changes were made in the Derelict Boat and Debris Program.

The Derelict Boat and Debris Program was scaled down by elimination of the dedicated in-house crew that was available to undertake derelict boats and debris removal statewide. The Department of Natural Resources now provides funding to the local governments for removal of derelict boats and debris from their local waters.

Obstacles/Needs

There is a need to address ways to capture the debris upriver before it comes through the hydroelectric dams on the Susquehanna River.

Summary of Strategy

Except for the decrease in available funding, the State of Maryland considers this issue to be adequately addressed through existing programs.

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Massachusetts

309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

Marine debris is a persistent problem in Massachusetts. Sources of marine debris include commercial fishing, beach-goers, recreational boaters, shipping, stormdrains and the unlawful dumping of trash at shoreside areas. Programs to educate the public about marine debris problems have resulted in a decrease in impacts from beach-goers. The prolonged effort of the COASTSWEEP campaign and other beach cleanup programs have been effective in removing long-standing large pieces of debris that have been an eyesore and a potential public health problem for years.

State Activities 1992 to 1996

Although no section 309 funds were used, recycling, beach clean-ups, and education programs for the public have continued.

The Gulf of Maine Council on the Marine Environment (GOMC) has provided small grants to municipalities, schools, and community groups for projects that study and/or publicize local marine debris problems.

The GOMC has initiated a Gulf-wide study to characterize current marine debris issues and identify measures that have been successful in preventing and reducing marine debris.

The annual COASTSWEEP statewide beach cleanup continues to be a priority project.

The Coastal Management Program has been working with the Executive Office of Environmental Affairs' Solid Waste Program to coordinate recycling efforts specific to marine activities.

Obstacles/Needs

Impacts from debris sources other than beachgoers are not well understood.

More study needs to be done to accurately evaluate impacts from lost fishing gear and the shipping industry.

With the current availability of resources, there is little room for improvement in the COASTSWEEP and Gulf of Maine Council on the Marine Environment programs.

Summary of Strategy

None

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1992 Assessment: Low
1997 Assessment: Medium

Existing and potential sources of marine debris in New Hampshire include landfills, recreational boaters, commercial vessels, beachgoers, litter from stormdrains, sewage systems, and solid waste disposal systems. Plastic, glass/bottles, metal cans, lobster traps, pipes and paper/packaging form the largest volume of marine debris

Although no section 309 funds were used, state and local programs to reduce litter, require recycling, and increase public awareness about marine pollution were developed.

The New Hampshire Coastal Program (NHCP) developed the Clean Coasts Campaign. This project includes the Beach Buddy program in which visitors to the coast receive a decal for spending one hour cleaning a site; the Adopt-A-Beach program which encourages organizations to adopt a site and clean it twice a year; and the Annual Coastal Cleanup where 25 sites are cleaned along the Atlantic shore and Great Bay.

The NHCP and the State Department of Environmental Services developed brochures that identify the location of pump-out stations and discuss the careful use of fuels and cleaning compounds.

The Department of Parks and Recreation initiated a carry-in, carry-out policy for trash in all state parks and beaches.

The issue of marine debris is not well defined (lacks a management framework) and is not documented in a scientifically credible way. There is no comprehensive organized effort to collect data other than what is done during the annual coastal cleanups.

Marine debris will be dealt with in the section 306 program.

New Hampshire will also use the Gulf of Maine Council on the Environment to focus on marine debris.

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New Jersey

309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

In 1986 and 1987, the New Jersey coast experienced several washups of floating debris that forced the closure of bathing beaches. The major sources of the debris was determined to be combined sewer overflows and poor solid waste handling practices at transfer stations and at the Fresh Kills Landfill in Staten Island. Stormwater runoff and commercial and recreational boats are also routine contributors to marine debris.

State Activities 1992 to 1996

Although no section 309 funds were used, the State has implemented two programs focusing on the issue of limiting marine debris.

The Adopt-a-Beach Program was implemented to sponsor beach cleanups by civic groups and to provide educational materials on the impact of beach litter and marine debris on coastal resources.

The New Jersey Clean Shores Program was implemented as a cooperative program to utilize state and county prison inmates to clean debris from sections of the State's beaches.

The Department of Environmental Protection added a new subchapter to the Rules on Coastal Zone Management concerning marina development and the requirement for abundant trash receptacles, fish cleaning areas, the development of a recycling plan for solid waste, and the construction of pumpouts and restrooms.

Summary of Strategy

New Jersey has made significant progress in reducing beach closures due to floatables through a Floatables Action Plan, better enforcement, and public education and will continue to advance this progress through existing programs.

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Obstacles/Needs

Continue to develop and improve public education and outreach programs on the impacts of marine debris and nonpoint sources of pollution.

1992 Assessment: Low
1997 Assessment: Low

Marine debris is an issue of only local significance in New York State. The major problems are found in the New York City metropolitan area. In New York Harbor, deteriorating piers and barges are the main sources of drifting wood. The major impacts are aesthetics and navigational safety.

Since 1992, the State has continued waste recycling, debris management and educational outreach programs.

Debris management policies are included in the State's development of regional coastal management programs. (Section 309)

Local governments have developed and implemented programs to reduce marine debris, mainly in the New York Harbor area.

None

Where marine debris is a problem, it can be addressed as part of a regional coastal management program or a more localized Special Area Management Plan.

New York has not identified significant activities related to marine debris management that need to be pursued through its 309 activities.

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Rhode Island

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Medium
1997 Assessment: Low

Issue Characterization

Plastics, including wrappers, food bags, cups, lids and other miscellaneous items are the primary type of debris.

State Activities 1992 to 1996

Although no section 309 funds were used, the State has developed new requirements and guidance for disposal and recycling of solid waste as part of the operation and maintenance of marinas.

The Coastal Resources Management Council (CRMC) has adopted marina operations and maintenance plan requirements consistent with Section 6217 of the Coastal Zone Act Reauthorization Amendments which will ultimately result in a reduction in the amount of marine debris.

Based on Section 6217 requirements, all new marinas and significantly expanding existing marinas are required to develop and implement operation and maintenance plans which address marine debris. The Coastal Resources Center (CRC) and the Rhode Island Economic Development Corporation have been assisting marina operators in developing these plans. The CRC has published an [Environmental Guide for Marinas](#) which sets out a step-by-step process for addressing potential pollution problems at marinas.

The CRMC also expects to incorporate Section 6217 requirements into its harbor management planning process.

Obstacles/Needs

None

Summary of Strategy

Rhode Island will continue to rely on the State Department of Environmental Management's Recycling program and CRMC's marina regulations (6217) for disposal and recycling of solid wastes to address marine debris issues.

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1992 Assessment: Low
1997 Assessment: Medium

According to the Center for Marine Conservation's 1995 Coastal Cleanup Results, Virginia is a part of the Mid-Atlantic Region Hotspot for debris in the fishing, galley, sewage and medical categories. The Clean the Bay Program reports that marine debris collected over similar shoreline areas has increased from 1992-1996. The reasons for the increase are not clear.

Although no section 309 funds were used, Virginia's effort has been directed primarily at assisting locally managed education projects and cleanup campaigns.

The Elizabeth River Watershed Action Plan calls for the establishment of a monitoring program and data bank to be able to assess the effectiveness of management efforts and actions taken. Virginia adopted a state budget item in 1996 for \$250,000 over two years

Another cleanup campaign, called Citizens Responsibly Acting for the Bay (CRAB), will target residents of three Hampton neighborhoods to prevent household pollution of the Bay through cleanups, workshops on lawn care, and the opportunity for residents to monitor water near their homes.

There is a lack of clear evidence of why the amount of marine debris collected during clean-ups is increasing.

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***southern/
caribbean***

Alabama

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low

1997 Assessment: Medium

Issue Characterization

Major sources of marine debris in the Gulf of Mexico and Mobile Bay include military, merchant, and commercial fishing vessels, offshore drilling operations, recreational boaters and fishermen, and urban stormwater runoff. Plastics account for almost 60 percent of the debris collected during beach cleanups. The Coastal Program has been participating since 1966 in the Center for Marine Conservation's National Marine Debris Monitoring project. This program highlights 30 specific items to determine their sources in order to continue to effectively target educational campaigns on Marine Debris.

State Activities 1992 to 1996

Although no section 309 funds were used, Alabama developed state/local recycling programs and is developing education programs.

In September 1998, Coastal Programs sponsored the 11th Annual Alabama Coastal Cleanup with nearly 3,200 citizens scouring 158 miles of coastline. To enhance the program's effectiveness, boat zones were added to clean areas inaccessible by foot. This aspect was extremely successful in debris removal, as well as reaching an audience that would not have otherwise participated in the cleanup.

The Alabama Department of Environmental Management (ADEM) developed marina guidelines that require Marine Sanitation Device pumpouts and trash and debris receptacles in standard designs.

A project developed by the Auburn Marine Extension and Research Center, Storm Drain Stenciling, has been taken over by the City of Mobile Department of Public Works as part of their public education and outreach requirements of ADEM's Municipal Stormwater Management permit.

Envelopes and postage have been provided since the 1996 Alabama Coastal CleanUp so that six-ring plastic beverage hoops could be sent back to the factory for recycling.

Obstacles/Needs

Alabama could benefit from a Derelict Vessels Management Program to inventory and remove these vessels from State waters. Stricter land use and maintenance, site clearing and erosion control measures should be instituted and enforced.

Summary of Strategy

Continued public education at all levels is necessary to inform policy-makers as well as citizens of the ramifications of trash and debris in the coastal environment.

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Florida

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low

1997 Assessment: Low

Issue Characterization

Annual Statewide coastal cleanups have documented the major types and sources of marine debris. The data indicate that the sources include commercial and sport fishermen, the military and cruise ships, recreational boaters, oil platforms, beach goers, and illegal dumpers.

State Activities 1992 to 1996

Although no section 309 funds were used, programs to require recycling and to reduce littering were developed and numerous educational programs were initiated.

The Solid Waste Management Act, which called for a 30 percent reduction in litter, was amended to require a 50 percent reduction in litter in the State.

Examples of new educational programs include:

The State Department of Education's curriculum (the 4 Rs to reduce, reuse, recycle, and recover) became the official environmental education curriculum used in Florida schools.

The *Waste In Place* curriculum, developed by Keep America Beautiful, was distributed to schools by Keep Florida Beautiful.

The Citizens Pollution Prevention Handbook was developed as a reference guide for citizens.

The Florida Coastal Management Program provides information to the Coastal Information Exchange Bulletin Board System.

The Adopt-a-Shore volunteer cleanup program is run by Keep Florida Beautiful and coordinated locally by participants.

The Underwater Cleanup and Conservation Monitoring Program was begun in conjunction with the 1995 Coastal Cleanup.

The Gulf of Mexico was designated an Area of Special Concern under Annex V of MARPOL.

Obstacles/Needs

Continued funding is needed to promote litter reduction programs.

Summary of Strategy

None

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Louisiana

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low

1997 Assessment: Low

Issue Characterization

Marine debris causes insignificant aesthetic impacts in Louisiana. People are the cause of litter and are responsible for the debris in the coastal zone. Participants in the 1996 Beach Sweep did not find the distribution and quantity of litter characteristic of previous years.

State Activities 1992 to 1996

Although no section 309 funds were used, Louisiana has established recycling programs and improved waste collection in rural areas and marinas.

Many parishes and municipalities now have recycling programs established through the Department of Environmental Quality.

Many parishes now provide solid waste collection receptacles for the more rural areas and solid waste facilities, pump out stations, and used oil collection stations at marinas and boat ramps.

Summary of Strategy

None

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Obstacles/Needs

None

Mississippi

309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

In Mississippi, marine debris affects not only local aesthetics, marine animals, and public safety, but also economic development and tourism. The main sources of marine debris in State coastal waters are: military, merchant, and cruise ships; commercial fishing vessels; offshore drilling operations; recreational boaters; sports fishermen, beach users. Rivers also carry debris from upland areas to coast waters. Data on marine debris has been collected by the Mississippi Marine Trash Task Force for four years during the Fall and Spring beach clean-ups.

State Activities 1992 to 1996

Although no section 309 funds were used, recycling, beach clean-ups, and public education and outreach programs have continued.

The Marine Litter Act and the Derelict Vessel Act were promulgated.

Public education and outreach activities, including the Adopt-A-Stream program, a storm drain stenciling program, amnesty days for household hazardous wastes, and the annual Coastal Clean-Up, were conducted.

A mandatory state/local recycling program was developed.

State/local regulations consistent with the Marine Plastic Pollution Research and Control Act were developed.

Mississippi is also developing programs to incorporate marine debris concerns into harbor, port, marina and coastal solid waste management plans and to participate in the Coast Guard's Emergency Response for Oil Spills Program.

Obstacles/Needs

None

Summary of Strategy

This issue is not deemed a critical priority or to require significant effort through the 309 program at this time.

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North Carolina

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low

1997 Assessment: Low

Issue Characterization

Land-based sources of marine debris in North Carolina include manufacturing and processing activities, sewage systems, solid waste disposal systems, deterioration of waterfront buildings, and littering. Marine and beach debris is unsightly and decreases the scenic quality of the state's beaches. Medical waste that washed up on the several state beaches several years ago caused a major public health scare.

State Activities 1992 to 1996

Although no section 309 funds were used, recycling, beach clean-ups, and education programs for the public have continued, and coastal counties have increased the amount of solid waste they are recycling as a percentage of their total waste stream.

The General Assembly enacted legislation making it illegal to discharge any wastes into state waters within three miles of shore. Statistics from Big Sweep show a reduction in the amount of debris attributed to commercial and recreational boating. North Carolina also has a requirement that marinas over a certain size provide facilities for solid waste disposal.

The Division of Coastal Management (DCM) and Big Sweep education efforts have targeted the state's beach and boating population. Generally, coastal cleanup statistics show an overall reduction in the volume of some debris items.

Obstacles/Needs

There is insufficient law enforcement efforts at the state level.

Summary of Strategy

DCM will continue to participate in the national and state efforts at reducing marine debris and making the public more aware of the problem and potential solutions.

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Puerto Rico

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low

1997 Assessment: Low

Issue Characterization

The disposal of solid waste from ships generates a moderate degree of impact, primarily to marine species. The plastic elements constitute a major hazard to the West Indian manatee, marine turtles and whales. Debris that originates on land comes from solid waste disposal sites, sewer systems, industrial plants, illegal dumping, and littering. These activities generate a moderate impact on coastal resources, which is mainly aesthetic.

State Activities 1992 to 1996

Although no section 309 funds were used, Puerto Rico has developed a recycling program and initiated anti-littering programs and activities.

A recycling program is being developed by the Solid Waste Management Authority. A local law requires all municipalities to separate solid waste into recyclable components with a compliance date of June 1994. However, few municipalities are in compliance with the law.

Programs to reduce littering at beaches continue. The Department of Natural and Environmental Resources (DNER) and other agencies continue to control littering at beaches and conduct clean-up operations. Some municipalities have undertaken responsibility for beach cleaning within their corporate boundaries.

DNER is participating in the Clean Vessel Act program to install collection and disposal facilities in marinas.

Anti-littering programs and activities have been initiated. An annual Playalimpiadas exercise is conducted with the Puerto Rico Hotel and Tourism Association as an element of the Annual Coastweek Program. DNER includes instructions concerning marine debris in the boating safety course that is mandatory for all purchasers of recreational boats.

Obstacles/Needs

No data are recorded on the volume, weight and types of debris collected during beach cleaning.

The Commonwealth does not have statutes related to reduction of marine debris, as such.

Summary of Strategy

None

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South Carolina

309 Marine Debris Enhancement Grant Summary

South Carolina

309 Marine Debris Enhancement Grant Summary

South Carolina

309 Marine Debris Enhancement Grant Summary

South Carolina

309 Marine Debris Enhancement Grant Summary

Issue Characterization

Marine debris is not a major problem in South Carolina, but concerns do exist and the issue has the potential to become of greater magnitude if steps are not taken to educate the public and protect the resource. Litter and discarded objects of all types are the marine debris which are most noticeable and objectionable. Pollution from storm water outfalls and overflows has created health concerns along the Grand Strand and in some waterways in developed areas. Storm-driven debris from structures such as boat docks and marinas have caused considerable damage to homes and other buildings.

State Activities 1992 to 1996

Marine debris has not been included in the strategies for the last five years. Although no section 309 funds were used, an Adopt-a-Beach program has been developed and a brochure for recreational boaters is being developed.

South Carolina's Office of Ocean and Coastal Resource Management (OCRM) instituted the Adopt-a-Beach program to reduce litter on beaches through volunteer efforts and to increase public awareness about the need to prevent degradation of the beaches through litter control.

OCRM staff is currently producing a brochure for recreational boaters which includes language on proper management of fish waste and litter.

Obstacles/Needs

None

Obstacles/Needs

None

Summary of Strategy

The State will survey all marinas and commercial docks to determine if fish waste and hull maintenance problems exist and will correct any problems by updating the Operation and Maintenance Manual or through the Pollution Control Act.

The State will study the need for and feasibility of requiring improvements in construction standards for docks and marinas in order to minimize the effects of storm-driven debris.

OCRM, in cooperation with the Corps of Engineers and the South Carolina Sea Grant Consortium, will cleanup selected creeks degraded with large debris remaining from Hurricane Hugo.

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U.S. Virgin Islands

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Non-priority

1997 Assessment: High

Issue Characterization

The coastal waters of the Virgin Islands are negatively impacted by marine debris from shipping fleets, cruise liners, boaters, fishing vessels, and from land sources. Plastic debris poses a significant problem because it endangers human as well as marine life. The proximity of landfills to the shoreline adversely affects the water quality of nearby lagoons.

State Activities 1992 to 1996

Although no section 309 funds were used, the Virgin Islands enacted legislation and developed programs to reduce litter and encourage recycling.

The Virgin Islands Legislature enacted the Bottle Bill which required the use of returnable beverage containers and deposits.

The Anti-litter and Beautification Committee began subsidizing aluminum can recycling. Grants are issued to individuals to establish redemption centers.

The Department of Public Works (DPW) hired personnel to strictly enforce anti-litter laws.

Obstacles/Needs

The Department of Planning and Natural Resources (DPNR) should coordinate with private entities to work out a territory-wide solution to marine debris and its impact on the coastline.

The DPNR should continue to work with other agencies on anti-litter campaigns and assist the DPW with its recycling campaign and its effort to find alternate ways to dispose of solid waste and relocate the sanitary landfills.

Summary of Strategy

None

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pacific

Alaska

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Moderate in the Arctic and Southwest; Low in rest of State

1997 Assessment: Moderate in the Arctic and Southwest; Low in rest of State

Issue Characterization

Sources of marine debris in Alaska include land-based industrial facilities and uses, fishing boats, cruise ships, and upland timber activity. Debris from cruise ships has increased since 1992 because of better public reporting of dumping at sea and an increase in cruise ships. Although debris from fishing boats has the highest level of impact to wildlife, there has been a decrease in the amount of entanglement debris and plastics due to increased public awareness and enforcement of MARPOL.

State Activities 1992 to 1996

Although no section 309 funds were used, the State has developed state management programs and initiatives to reduce littering and wasteful packaging and to encourage recycling.

The Coastal Clean Water Plan has drafted solid waste management Best Management Practices for harbors.

The Alaska Coastal Management Program has produced a brochure on clean boater tips that will be included with every vessel registration or renewal application, and also distributed at the largest harbors.

The Alaska Coastal Management Program and the Department of Environmental Conservation jointly developed the Coastal Clean Water Plan in response to Section 6217 of the Coastal Zone Act Reauthorization Amendments.

The Governor signed an administrative order directing agencies to participate and promote the Green Star program which recognizes businesses and government agencies for their efforts to reduce and recycle waste and conserve energy.

Fish net recycling has been developed in the Southwest region of Alaska

A regional program, the Prince William Sound Solid Waste Management Plan, has been started. This plan contains strategies to be used to reduce marine pollution and solid waste.

The Department of Environmental Conservation funded the preparation of a *Small Harbor Refuse Guide* for the Aleutians East Borough that provides guidelines for the operation and management of marine refuse reception facilities at the borough's four harbors.

Obstacles/Needs

The solutions to the marine debris problem in Alaska are increased capital funding for reception facilities at harbors, increased enforcement of MARPOL, and increased public awareness. Marine debris also does not have the attention or support of top-level state agency administrators.

Summary of Strategy

None

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American Samoa
309 Marine Debris Enhancement Grant Summary

1992 Assessment: High
1997 Assessment: Medium

Issue Characterization

Marine debris is an increasing problem in American Samoa. Land-based dumping is the main source of pollutants. The use of streams and adjacent areas as dump sites is one of the leading causes for the accumulation of used appliances, garbage, and other items that are washed into the ocean during heavy rains. The increase in population and the increasing amount of imported materials which require managed land-based disposal or recycling contributes to the amount of debris.

State Activities 1992 to 1996

Although no section 309 funds were used, American Samoa has instituted a program for solid waste management, mounted an aggressive anti-litter campaign, and completed a recycling feasibility study.

The American Samoa Environmental Protection Agency (ASEPA) now employs a contractor to remove debris from Pago Pago Harbor.

The American Samoa Power Authority has assumed responsibility for trash pickup. A program for solid waste management has been instituted. An anti-litter campaign has been implemented to clean up Pago Pago Bay, Tafuna, Leone, and Manu'a. Hotlines have been established to provide the public information on waste disposal and to receive citizen reports on litterers.

The American Samoa Government completes daily surveillance of the Pago Pago Harbor and issues citations for dumping trash in the water.

The magnitude of oil spills has decreased because of increased surveillance and enforcement by the American Samoa Government, increased presence of the Coast Guard, the establishment of a bilge-oily water waste reception system, a new fuel dock, and improved management by the American Samoa Petroleum Coop.

A recycling feasibility study was completed in 1994.

The recycling of aluminum cans has been greatly increased. Scrap metal is also being recycled.

A litter law has been enacted. The American Samoa Conservation Corps has added 20 field assistants for community outreach.

Obstacles/Needs

Marine debris needs to be incorporated into the planning process and needs to be consistent with MARPOL.

Summary of Strategy

The main thrust of the ASCMP in dealing with marine debris has been through environmental education programs such as Coastweeks and Le Tausagi, a traditional theatrical troupe.

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California

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Medium

1997 Assessment: Medium

Issue Characterization

In terms of an overall trend, local beach managers have consistently reported reductions in litter, especially at beaches involved in the year-round Adopt-a-Beach program. The California beverage container recycling program appears to be responsible for the decline in the percentage of bottles found in debris collected in the annual beach cleanup. Marine debris from urban runoff and land-based recreation causes significant aesthetic impacts and resource damage.

State Activities 1992 to 1996

Since 1992, marine debris concerns have been integrated into harbor, port, marina and coastal solid waste management plans.

Marine debris concerns have been integrated into marina and harbor pollution control plans through the Coastal Commission's Coastal Nonpoint Pollution Control Program, the public education elements of the Santa Monica Bay and San Francisco Bay National Estuary Projects, and the National Pollutant Discharge Elimination System storm drain discharge programs of coastal jurisdictions.

Obstacles/Needs

Adequate funding is needed to assure continued education and volunteer-based efforts on marine debris.

Improved coordination among jurisdictions would enhance the Coastal Commission's marine debris program.

Summary of Strategy

The problem of marine debris will require extensive intergovernmental and public cooperation to solve.

Integrating marine debris-related activities into the overall coastal enhancement scheme will make for a stronger strategy.

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Commonwealth of the Northern Mariana Islands

309 Marine Debris Enhancement Grant Summary

1992 Assessment: High

1997 Assessment: Medium

Issue Characterization

Plastics, flotsam and oil globules have moderate aesthetic and resource impacts in the CNMI. Plastics and flotsam are the primary types of marine debris in the CNMI. These originate primarily from the dump situated on the shoreline extending into Saipan lagoon and offshore sources such as container ships and commercial fishing vessels. Oil globules apparently originate from oil spills at sea.

State Activities 1992 to 1996

Although no section 309 funds were used, CNMI personnel have undergone law enforcement training, dump enclosure plans have been developed, public education programs have continued, and funding was obtained for a glass recycling project.

Coastal Resource Management Division (CRMD) staff were provided law enforcement training by the U.S. Coast Guard in order to strengthen CNMI's capabilities to enforce resource protection laws, such as littering controls.

A requirement was established that CRMD permits for harbor and marina development must include conditions requiring proper management of solid waste. Dump enclosure plans have also been developed to contain the outer limits of the Puerto Rico dump.

CRMD's public education programs continue.

CNMI has obtained Environmental Protection Agency funding for a glass recycling demonstration project.

Obstacles/Needs

The continued substandard operation of the Puerto Rico dump is the major gap in reducing the amount of marine debris in the coastal zone.

CNMI needs to provide for collection service and enough trash receptacles at shoreline areas to reduce littering.

Summary of Strategy

CNMI can take the following steps to improve ongoing attempts to control marine debris:

Produce and distribute commercials, pamphlets and public service announcements emphasizing the need for public participation in protecting the coastal environment.

Institute a system that would allow for citizen monitoring and reporting of violations relating to at-sea dumping.

Institute a marine debris source study in coordination with the Center for Marine Conservation.

Continue to seek closer coordination between CRMD agencies and the Commonwealth Port Authority and the U.S. Coast Guard.

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Guam

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low to medium

1997 Assessment: Low to medium

Issue Characterization

Guam has not experienced any major marine debris incidents such as would be caused by deliberate ocean dumping. Marine debris on Guam originates from recreational boating, fishing, and picnickers. Most of the trash collected during the annual coastal cleanup consists of household waste and construction debris.

State Activities 1992 to 1996

Although no section 309 funds were used, recycling and litter reduction programs, solid waste management plans, beach clean-ups, and education programs for the public were developed.

Recycling of paper and aluminum is now required in all offices.

Urban management measures in the Guam Coastal Nonpoint Source Pollution Management Plan include public education and stormwater management practices. Marinas and Recreational Boating management measures in the Guam Coastal Nonpoint Source Pollution Management Plan address shoreside disposal facilities at marinas.

Annual International Coastal Cleanup was conducted in 1995 and 1996.

A Guam Solid Waste Management Plan is being developed that will include recycling and additional disposal options.

A radio advertising campaign and a Man, Land, and Sea television program, newsletter, and calendar were used in educational programs to increase awareness about marine pollution.

Special funds from NOAA and the Department of the Interior were used in 1998 to clean up marine debris from the reef areas resulting from Typhoon Paka. More than 14 tons of debris were removed from the reef by government agencies, commercial dive operators and volunteers.

Obstacles/Needs

The lack of a solid waste management plan creates a major gap in dealing with marine debris.

Summary of Strategy

None

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Hawaii

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low

1997 Assessment: Low

Issue Characterization

Marine debris remains a persistent problem for Hawaii. Since 1991, the types of debris have not changed significantly. The amount of medical waste found on Oahu's shoreline carried from inland sources by storm runoff has increased.

State Activities 1992 to 1996

Although no section 309 funds were used, the State has implemented programs and passed legislation requiring recycling and prohibiting littering and ocean dumping.

Adopt-a-Beach, Adopt-a-Park, Adopt-a-Harbor and Storm Drain Stenciling Programs were implemented to prevent and remove debris and litter.

Mandatory recycling programs for cardboard, green waste, office and newspaper, glass beverage containers, and food waste were implemented for the commercial and public sectors.

The Governor's Committee on Ending Litter assisted in promoting COASTWEEKS, the annual event that educates the public on coastal issues and conducts the Get the Drift and Bag It coastal cleanup.

Additional efforts are being made to market products made from recycled goods. The Aloha Plastic Recycling Company on Maui has developed technology to produce lumber from recycled plastics.

The Ala Wai Canal Watershed is the target of several projects by the City and County of Honolulu, the Department of Health, and the U.S. Environmental Protection Agency to improve water quality in the streams and the canal. Local communities are

participating in upstream cleanup activities.

The Department of Health (DOH) regulates solid waste management and promotes alternative source reduction programs. DOH also requires each county to develop its own solid waste management plan and revise it every five years. Stricter landfill siting regulations were adopted in 1993.

Obstacles/Needs

There is a lack of funding and support for developing Hawaii markets for recycled materials.

Some county recycling programs are neither cost-effective nor mandatory.

People need to be better educated about adopting better methods of waste disposal.

Limited staff and equipment make enforcement of laws difficult over 1,000 miles of coastline and the vast area of surrounding ocean.

Summary of Strategy

None

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Oregon

309 Marine Debris Enhancement Grant

1992 Assessment: Low

1997 Assessment: Low

Issue Characterization

Non-degradable debris, such as plastic and glass, enters Oregon's ocean from domestic and foreign ships, military ships, cruise ships, commercial fishing ships, recreational boaters, and beach users. Rivers also bring debris from urban areas and highways. Annual beach cleanup data indicate a significant decline in sources of beach debris in Oregon and that the state has significantly less of a debris problem than the rest of the nation. In 1995, plastics made up 72% of Oregon's beach debris

State Activities 1992 to 1996

Although no section 309 funds were used, recycling at ports and beach clean-ups have continued while other statewide recycling and waste reduction programs have commenced.

Recycling programs established by port authorities have been successful and are continuing at the ports of Astoria, Coos Bay and Newport.

Various statewide recycling and waste reduction initiatives have begun. All cities over 4,000 population provide curb-side recycling; all other areas have recycling centers nearby.

The state has also set up a pilot waste prevention and reduction program with the city of Corvallis.

Obstacles/Needs

None

Summary of Strategy

The grass roots nature and spirit of Oregon's various debris eradication programs have been successful in keeping Oregon's beach litter problem at significantly lower levels than the national average without involvement of the section 309 program.

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San Francisco Bay Conservation and Development Commission
309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

Debris in San Francisco Bay originates from recreational users of the Bay and shoreline, urban storm drains, and municipal waste water treatment plants. Plastic and polystyrene are the most common debris materials. Hazards to navigation are presented by logs and pilings floating in the water. Storm water runoff, directed into the Bay through a network of open channels, drain pipes, and street gutters, is a source of smaller solid waste products.

State Activities 1992 to 1996

Although no section 309 funds were used, BCDC has initiated a coordinated effort that resulted in the cleanup of a local creek.

BCDC initiated a coordinated effort among many regulatory and enforcement agencies that resulted in the removal of abandoned and sunken boats that were affecting water quality in the sloughs and creeks within the Redwood Creek area. The informal collaboration known as the Operation Aqua Terra Task Force resulted in the removal of 25 abandoned vessels and charges being filed against live-aboard boaters that were dumping raw sewage into the water. A local ordinance was enacted to prevent this situation from recurring.

Representatives from federal, state, and local agencies and elected officials have been organized to address a similar situation at Alviso Slough in San Jose. Clean up of the Slough is anticipated in 1997.

Obstacles/Needs

Due to ongoing budget and staff constraints, BCDC is unable to assign resources to the debris issue.

Summary of Strategy

None

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Washington

309 Marine Debris Enhancement Grant Summary

1992 Assessment: Low
1997 Assessment: Low

Issue Characterization

Marine and lake debris in Washington is more a visual problem than a public health or environmental hazard problem. Recent state budget cuts have resulted in diminished grants to accomplish public education or the monitoring of debris by private volunteer groups. The impact from debris from ships at sea is aesthetic with insignificant to moderate amounts washing up on ocean beaches. Moderate to insignificant amounts of urban litter washing down from urban streams causes aesthetic impacts; rarely there are public health or environmental concerns. The disintegration of foamed plastic buoyancy materials causes an aesthetic impact mainly in Puget Sound; smaller pieces may be ingested by marine life. Moderate amounts of litter deposited at public access sites causes mostly aesthetic impacts; rarely are there public health concerns.

State Activities 1992 to 1996

There have been no significant changes since 1992. In 1992, the Department of Natural Resources discontinued its Marine Plastic Debris Program for budgetary reasons. No other statewide program has been implemented.

Obstacles/Needs

Major gaps in addressing marine debris are budgetary and the perception that marine debris is not a major problem in the State.

Summary of Strategy

None

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great lakes

Michigan

309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

Assorted containers, paper products, plastics and tires contribute to aesthetic impacts along the Michigan coast. Fishing line and plastics present a hazard to Great Lakes wildlife. Boards with nails, broken glass, metal objects and waste washing ashore create a health and safety hazard to beach-goers.

State Activities 1992 to 1996

Although no section 309 funds were used, recycling, beach clean-ups, and education and assistance programs for the public have continued.

The following state environmental programs have been codified into the Natural Resources and Environmental Protection Act:

State/local programs requiring recycling of paper and used oil and disposal of batteries and plastics.

State programs to reduce littering, pollution and wasteful packaging, including Adopt-A-Shoreline and Watercraft Pollution Control.

Great Lakes debris concerns incorporated into harbor, port, marina and coastal solid waste management plans.

Education programs, including the annual Coastweeks and Great Lakes Beach Sweep.

Assistance programs, including the Clean Vessel Grant Program and the Solid Waste Alternative Program.

Obstacles/Needs

None

Summary of Strategy

Michigan will continue to monitor the results of future beach cleanup surveys and reports.

Many needs under Great Lakes debris can and are being addressed through existing funding and regulatory programs.

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Pennsylvania

309 Marine Debris Enhancement Grant Summary

1997 Assessment: Low

Issue Characterization

Marine debris is considered more of a nuisance than a problem in the Delaware Estuary coastal zone. The tidal action of the estuary removes debris such as plastic, paper, and bottles that were trapped on the shoreline during ebb tide. Debris in the Lake Erie coastal zone is not a major problem. Presque Isle State Park has been conducting beach cleanups twice a year for over 30 years. Most of the trash collected is plastic and paper that appears to be land-based.

State Activities 1992 to 1996

Although no section 309 funds were used, a state and local recycling program was developed, combined sewer overflow (CSO) planning grants were awarded, and marina pumpout facilities were constructed.

The City of Erie has progressed to Phase 2 of the Department of Environmental Protection (DEP) imposed requirement to upgrade its sewage treatment plant and to reduce the number of CSOs.

The DEP revised its CSO strategy and now requires municipal dischargers to identify CSO locations and implement a set of nine minimum, technology-based, best management practices and a long-term control plan. Planning grants for developing and implementing low cost management controls were awarded to 30 selected municipalities with CSOs. Grants were also issued to two coastal sewage authorities: the City of Philadelphia and the Delaware County Regional Water Quality Authority.

The DEP developed a National Pollutant Discharge Elimination System General Permit for Wet Weather Overflow Discharges from CSOs.

The Pennsylvania Fish and Boat Commission constructed one boat pumpout facility in the Delaware Estuary Coastal Zone and two pumpout facilities in the Lake Erie Coastal Zone. Information brochures, posters, signage, and a directory of pumpout facilities were also developed for boaters' use.

The Municipal Waste Planning, Recycling and Waste Reduction Act was passed. This Act mandates recycling in all larger municipalities, requires counties to develop waste management plans, and provides grants to offset expenses.

Obstacles/Needs

None

Summary of Strategy

The DEP has created the new Office of Pollution Prevention and Compliance Assistance which emphasizes prevention of pollution, as opposed to cleaning up pollution after it has occurred.

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Wisconsin

309 Marine Debris 309 Enhancement Grant Summary

1992 Assessment: Low

1997 Assessment: Low

Issue Characterization

Marine debris in Wisconsin includes an array of trash and debris from both land and lake vessels. Marine debris is not a significant problem at coastal parks on Lake Superior and Lake Michigan. At Kohler-Andrea State Park, the most persistent problems are with tires and metal drums. Cans, coolers, fishing line, and lures that wash onto the County beaches in the Milwaukee area are thought to come from boats.

State Activities 1992 to 1996

No significant changes have occurred since 1992.

Obstacles/Needs

None

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Summary of Strategy

Because marine debris is not a major problem along the Great Lake coasts, the Wisconsin Coastal Management Program believes that existing policies and programs for reducing marine debris are adequate.

activities

research and assessment

state activities 1992 to 1996

HI Additional efforts are being made to market products made from recycled goods. The Aloha Plastic Recycling Company on Maui has developed technology to produce lumber from recycled plastics.

MA The Gulf of Maine Council on the Marine Environment has initiated a Gulf-wide study to characterize current marine debris issues and identify measures that have been successful in preventing and reducing marine debris.

VA The Elizabeth River Watershed Action Plan calls for the establishment of a monitoring program and data bank to be able to assess the effectiveness of management efforts and actions taken. Virginia adopted a state budget item in 1996 for \$250,000 over two years to enhance the toxics monitoring capabilities.

309 strategy

CNMI The Territory can institute a marine debris source study in coordination with the Center for Marine Conservation.

SC The State will survey all marinas and commercial docks to determine if fish waste and hull maintenance problems exist and will correct any problems by updating the Operation and Maintenance Manual or through the Pollution Control Act. The State will study the need for and feasibility of requiring improvements in construction standards for docks and marinas in order to minimize the effects of storm-driven debris.

planning

state activities 1992 to 1996

AK The Alaska Coastal Management Program and the Department of Environmental Conservation jointly developed the Coastal Clean Water Plan in response to Section 6217 of the Coastal Zone Act Reauthorization Amendments. A regional program, the Prince William Sound Solid Waste Management Plan, has been started. This plan contains strategies to be used to reduce marine pollution and solid waste.

AS The American Samoa Power Authority has assumed responsibility for trash pickup. A program for solid waste management has been instituted. A recycling feasibility study was completed in 1994. The recycling of aluminum cans has been greatly increased. Scrap metal is also being recycled.

BCDC Representatives from federal, state, and local agencies and elected officials were organized to remove abandoned and sunken vessels from Alviso Slough in San Jose.

CA Marine debris concerns have been integrated into marina and harbor pollution control plans through the Coastal Commission's Coastal Nonpoint Pollution Control Program, the public education elements of the Santa Monica Bay and San Francisco Bay National Estuary Projects, and the National Pollutant Discharge Elimination System storm drain discharge programs of coastal jurisdictions.

CNMI Dump enclosure plans have been developed to contain the outer limits of the Puerto Rico dump. CNMI has obtained Environmental Protection Agency funding for a glass recycling demonstration project.

GU The Solid Waste Management Plan being developed will include recycling and added disposal options.

MA The Coastal Management Program has been working with the Executive Office of Environmental Affairs Solid Waste Program to coordinate recycling efforts specific to marine activities.

NY Local governments have developed and implemented programs to reduce marine debris, mainly in the New York Harbor area.

PA Planning grants for developing and implementing low cost management controls were awarded to 30 selected municipalities with combined sewer overflows. Grants were also issued to two coastal sewage authorities: the City of Philadelphia and the Delaware County Regional Water Quality Authority.

309 strategy

CNMI The Commonwealth can institute a system that would allow for citizen monitoring and reporting of violations relating to at-sea dumping. CNMI can continue to seek a closer coordination between Coastal Resource Management Division agencies and the Commonwealth Port Authority and the U.S. Coast Guard.

regulatory

state activities 1992 to 1996

AL The Alabama Department of Environmental Management developed marina guidelines that require Marine Sanitation Device pumpouts and trash and debris receptacles in standard designs.

AK The Coastal Clean Water Plan has drafted solid waste management Best Management Practices for harbors. The Governor signed an administrative order directing agencies to participate and promote the Green Star program which recognizes businesses and government agencies for their efforts to reduce and recycle waste and conserve energy.

AS The American Samoa Government completes daily surveillance of the Pago Pago Harbor and issues citations for dumping trash in the water. A litter law has been enacted. The American Samoa Conservation Corps has added 20 field assistants for community outreach.

BCDC The Commission initiated a coordinated effort among many regulatory and enforcement agencies that resulted in the removal of abandoned and sunken boats that were affecting water quality in the Redwood Creek area. The informal collaboration known as the "Operation Aqua Terra Task Force" resulted in the removal of 25 vessels and charges being filed against live-aboard boaters that were dumping raw sewage into the water. A local ordinance was enacted to prevent this situation from recurring.

CNMI A requirement was established that Coastal Resource Management Division permits for harbor and marina development must include conditions requiring proper management of solid waste.

CT Stormwater general permits were developed by the State Department of Environmental Protection in October 1992 and continue to be administered.

DE The amendments to the Delaware Marina Regulations pertaining to solid waste require that the storage, handling and disposal of solid wastes be in strict accordance with the Department's Regulations Governing Solid Waste.

FL The Solid Waste Management Act, which called for a 30 percent reduction in litter, was amended to require a 50 percent reduction in litter in the State.

GU Recycling of paper and aluminum is now required in all offices. Urban management measures in the Guam Coastal Nonpoint Source Pollution Management Plan include public education and stormwater management practices. Marinas and Recreational Boating management measures in the Guam Coastal Nonpoint Source Pollution Management Plan address shoreside disposal facilities at marinas.

HI Mandatory recycling programs for cardboard, green waste, office and newspaper, glass beverage containers, and food waste were implemented for the commercial and public sectors. The Department of Health (DOH) regulates solid waste management and promotes alternative source reduction programs. DOH also requires each county to develop its own solid waste management plan and revise it every five years. Stricter landfill siting regulations were adopted in 1993.

ME Since 1994, the Waste Management Act requires Maine state and local governments to divert nickel-cadmium batteries for recycling. The Reduction

in Toxins in Packaging law provides incentives to use packaging manufactured from recycled feed stock and packaging that can be reused.

MI The following state environmental programs have been codified into the Natural Resources and Environmental Protection Act:

1. State/local programs requiring recycling and disposal.
2. State programs to reduce littering, pollution and wasteful packaging.
3. Great Lakes debris concerns incorporated into harbor, port, marina and coastal solid waste management plans.
4. Education programs, including the annual Coastweeks and Great Lakes Beach Sweep. Coastal Zone Management Act Section 306 funds were used for beach cleanups.
5. Assistance programs, including the Clean Vessel Grant Program.

MS The Marine Litter Act and the Derelict Vessel Act were promulgated. State/local regulations consistent with the Marine Plastic Pollution Research and Control Act were developed. Mississippi is also developing programs to incorporate marine debris concerns into harbor, port, marina and coastal solid waste management plans and to participate in the Coast Guard's Emergency Response for Oil Spills Program.

NJ The Department of Environmental Protection added a new sub-chapter to the Rules on Coastal Zone Management concerning the design, construction and operation of marinas.

NY New York has retained the recycling and waste reduction programs, including a bottle bill and mandatory statewide recycling, that were in place in 1992.

NC The General Assembly enacted legislation making it illegal to discharge any wastes into state waters within three miles of shore. Statistics from Big Sweep show a reduction in the amount of debris attributed to commercial and recreational boating. North Carolina also has a requirement that marinas

over a certain size provide facilities for solid waste disposal.

PA The City of Erie has progressed to Phase 2 of the Department of Environmental Protection imposed requirement to upgrade its sewage treatment plant and to reduce the number of combined sewer overflows. The Department revised its combined sewer overflow strategy and now requires municipal dischargers to identify overflow locations and implement a set of nine minimum, technology-based, best management practices and a long-term control plan. The Department of Environmental Protection developed a National Pollutant Discharge Elimination System General Permit for Wet Weather Overflow Discharges from combined sewer overflows. The Municipal Waste Planning, Recycling and Waste Reduction Act was passed. This Act mandates recycling in all larger municipalities, requires counties to develop waste management plans, and provides grants to offset expenses.

RI The Coastal Resources Management Council has adopted marina operations and maintenance plan requirements consistent with Section 6217 of the Coastal Zone Act Reauthorization Amendments which will ultimately result in a reduction in the amount of marine debris. Based on Section 6217 requirements, all new marinas and significantly expanding existing marinas are required to develop and implement operation and maintenance plans which address marine debris. The Coastal Resources Center and the Rhode Island Economic Development Corporation have been assisting marina operators in developing these plans. The Coastal Resources Center has published an *Environmental Guide for Marinas* which sets out a step-by-step process for addressing potential pollution problems at marinas. The Council also expects to incorporate Section 6217 requirements into its harbor management planning process.

USVI The Virgin Islands Legislature enacted the Bottle Bill which required the use of returnable beverage containers and deposits. The Department of Public Works hired personnel to strictly enforce anti-litter laws.

VA A new initiative was submitted to the 1997 General Assembly to significantly increase the penalties for illegal dumping from \$200 to \$5,000 and also to increase the incentives for local governments to prosecute violators by letting them keep the fines collected and recover costs of prosecution.

309 strategy

None

non-regulatory

State Activities 1992 to 1996

AK Fish net recycling has been developed in the Southwest region of Alaska

AS The American Samoa Environmental Protection Agency now employs a contractor to remove debris from Pago Pago Harbor. The magnitude of oil spills has decreased because of increased surveillance and enforcement by the American Samoa Government, increased presence of the Coast Guard, the establishment of a bilge-oily water waste reception system, a new fuel dock, and improved management by the American Samoa Petroleum Coop.

BCDC The Commission initiated a coordinated effort among many regulatory and enforcement agencies that resulted in the removal of abandoned and sunken boats that were affecting water quality in the Redwood Creek area. The informal collaboration known as the "Operation Aqua Terra Task Force" resulted in the removal of 25 vessels and charges being filed against live-aboard boaters that were dumping raw sewage into the water.

CNMI Coastal Resources Management staff were provided law enforcement training by the U.S. Coast Guard in order to strengthen CNMI's capabilities to enforce resource protection laws, such as littering controls.

CT Marine debris abatement issues are highlighted in a marina best management practices manual and appropriate best management practices continue to be incorporated into harbor management plans and as conditions of state authorizations for marinas. Connecticut has developed a technical guidance manual which identifies floatable debris as an important issue in the stormwater and marina chapters. The need for this document resulted from the passage of state legislation that requires zoning regulations

and plans of development in towns contiguous to Long Island Sound to be developed with consideration for protection and restoration of the ecosystem. The State has several department-wide projects to reduce marine debris, including the recommendations included in the Long Island Sound Study's Comprehensive Conservation and Management Plan adopted in 1994.

DE Delaware's state parks have adopted a carry in/carry out program for all public waste.

FL The Gulf of Mexico was designated an Area of Special Concern under Annex V of MARPOL.

LA Many parishes and municipalities now have recycling programs established through the Department of Environmental Quality. Many parishes now provide solid waste collection receptacles for the more rural areas and solid waste facilities, pump out stations, and used oil collection stations at marinas and boat ramps.

MD The Derelict Board and Debris Program was scaled down by elimination of the dedicated in-house crew that was available to undertake derelict boats and debris removal statewide. The Department of Natural Resources now provides funding to the local governments for removal of derelict boats and debris from local waters.

ME The Gulf of Maine Council on the Marine Environment and the Maine Coastal Program initiated local projects in Portland, Rockland, Eastport, and Stonington to reduce marine debris by installing recycling bins and waste oil collection stations.

309 strategy

MS Mississippi is developing programs to incorporate marine debris concerns into harbor, port, marina and coastal solid waste management plans and to participate in the Coast Guard's Emergency Response for Oil Spills Program.

NH The Department of Parks and Recreation initiated a carry-in, carry-out policy for trash in all state parks and beaches.

NY Debris management policies are included in the State's development of regional coastal management programs.

OR Recycling programs established by port authorities have been successful and are continuing at the ports of Astoria, Coos Bay and Newport. Various statewide recycling and waste reduction initiatives have begun. All cities over 4,000 population provide curb-side recycling; all other areas have recycling centers nearby. The state has also set up a pilot waste prevention and reduction program with the city of Corvallis.

PR A recycling program is being developed by the Solid Waste Management Authority. A local law requires all municipalities to separate solid waste into recyclable components with a compliance date of June 1994. However, few municipalities are in compliance with the law. Programs to reduce littering at beaches continue. The Department of Natural and Environmental Resources and other agencies continue to control littering at beaches and conduct clean-up operations. Some municipalities have undertaken responsibility for beach cleaning within their corporate boundaries. The Department of Natural and Environmental Resources is participating in the Clean Vessel Act program to install collection and disposal facilities in marinas.

VA A major cleanup effort of marine debris in the Elizabeth River is being undertaken by the Elizabeth River Project. The General Assembly adopted a state budget amendment allocating \$100,000 a year for 1996 and 1997 to the Virginia Marine Resources Commission for removal of abandoned vessels and other deteriorated structures in the Elizabeth River.

CA Integrating marine debris-related activities into the overall coastal enhancement scheme will make for a stronger strategy.

NH New Hampshire will use the Gulf of Maine Council on the Environment to focus on marine debris.

SC The State Office of Ocean and Coastal Resource Management, in cooperation with the Corps of Engineers and the South Carolina Sea Grant Consortium, will cleanup selected creeks degraded with large debris remaining from Hurricane Hugo.

outreach and education

State Activities 1992 to 1996

AL In September 1998, the Coastal Program sponsored the 11th Annual Alabama Coastal Cleanup with nearly 3,200 citizens scouring 158 miles of coastline. To continue the program effectiveness, boat zones were added to clean areas inaccessible by foot. This aspect was extremely successful in debris removal, as well as reaching an audience that would not have otherwise participated in the cleanup. A project developed by the Auburn Marine Extension and Research Center, Storm Drain Stenciling, has been taken over by the City of Mobile Department of Public Works as part of their public education and outreach requirements of the Alabama Department of Environmental Management's Municipal Stormwater Management permit. Envelopes and postage have been provided since the 1996 Alabama Coastal Clean-Up so that six-ring plastic beverage hoops could be sent back to the factory for recycling.

AK The Alaska Coastal Management Program has produced a brochure on clean boater tips that will be included with every vessel registration or renewal application, and also distributed at the largest harbors. The Department of Environmental Conservation funded the preparation of a *Small Harbor Refuse Guide* for the Aleutians East Borough that provides guidelines for the operation and management of marine refuse reception facilities at the borough's four harbors.

AS An anti-litter campaign has been implemented to clean up Pago Pago Bay, Tafuna, Leone, and Manu'a. Hotlines have been established to provide the public information on waste disposal and to receive citizen reports on litterers.

CA Marine debris concerns have been integrated into marina and harbor pollution control plans through the Coastal Commission's Coastal Nonpoint Pollution

Control Program, the public education elements of the Santa Monica Bay and San Francisco Bay National Estuary Projects, and the National Pollutant Discharge Elimination System storm drain discharge programs of coastal jurisdictions.

CNMI Coastal Resource Management Division's public education programs continue.

CT The Long Island Sound Fund provided funding for several storm drain stenciling projects.

DE The *Recycle Delaware* program continues to expand. The number of voluntary drop-off recycling centers operated by the Delaware Solid Waste Authority has been increased to 140 sites. The Authority has begun a second series of pilot programs to collect household hazardous wastes with the selection of Rollins Environmental Services, Inc, to operate two pilot programs in New Castle County.

FL The State Department of Education's curriculum (the 4 Rs to reduce, reuse, recycle, and recover) became the official environmental education curriculum used in Florida schools. The Waste In Place curriculum, developed by Keep America Beautiful, was distributed to schools by Keep Florida Beautiful. The Citizens Pollution Prevention Handbook was developed as a reference guide for citizens. The Florida Coastal Management Program provides related information to the Coastal Information Exchange Bulletin Board System. The Adopt-a-Shore volunteer cleanup program is run by Keep Florida Beautiful and coordinated locally by participants. The Underwater Cleanup and Conservation Monitoring Program was begun in conjunction with the 1995 Coastal Cleanup.

GU The Annual International Coastal Cleanup was conducted in 1995 and 1996. Radio advertising

campaign and the Man, Land, and Sea television program, newsletter, and calendar were used in educational programs to increase awareness about marine pollution. Special funds from NOAA and the U.S. Department of the Interior were used in 1998 to clean up marine debris from the reef areas resulting from Typhoon Paka. More than 14 tons of debris was removed from the reef by government agencies, commercial dive operators and volunteers.

HI Adopt-a-Beach, Adopt-a-Park, Adopt-a-Harbor and Storm Drain Stenciling Programs were implemented to prevent and remove debris and litter. The Governor's Committee on Ending Litter assisted in promoting COASTWEEKS, the annual event that educates the public on coastal issues and conducts the Get the Drift and Bag It coastal cleanup. The Ala Wai Canal Watershed is the target of several projects by the City and County of Honolulu, the Department of Health, and the U.S. Environmental Protection Agency to improve water quality in the streams and the canal. Local communities are participating in upstream cleanup activities.

ME The State Planning Office continues to organize the Coastal Cleanup effort to educate the public about marine debris issues. The State Planning Office developed a marine debris educational display which is circulated to libraries and exhibited at local fairs. The Department of Environmental Protection published a marina handbook that includes guidance on managing solid waste generated by marinas and boaters.

MA The Gulf of Maine Council on the Marine Environment has provided small grants to municipalities, schools, and community groups for projects which study and/or publicize local marine debris problems. The annual COASTSWEEP statewide beach cleanup continues to be a priority project.

MS State public education and outreach activities include the Adopt-A-Stream program, a storm drain stenciling program, amnesty days for household hazardous wastes, and the annual Coastal Clean-Up.

NH The Piscataqua Region Council on Marine Debris designed and posted 50 boat launch and 25

beach signs and distributed trash bags at state and local coastal facilities to encourage the public to properly dispose of their trash. The New Hampshire Coastal Program developed the Clean Coasts Campaign. This project includes the Beach Buddy program in which visitors to the coast receive a decal for spending one hour cleaning a site; the Adopt-A-Beach program which encourages organizations to adopt a site and clean it twice a year; and the Annual Coastal Cleanup where 25 sites are cleaned along the Atlantic shore and Great Bay. The New Hampshire Coastal Program and the Department of Environmental Services developed brochures that identify the location of pump-out stations and discuss the careful use of fuels and cleaning compounds.

NJ The Adopt-a-Beach Program was implemented to sponsor beach cleanups by civic groups and to provide educational materials on the impact of beach litter and marine debris on coastal resources. The New Jersey Clean Shores Program was implemented as a cooperative program to utilize state and county prison inmates to clean debris from sections of the State's beaches.

NY State and local authorities, as well as many private groups, provide educational outreach programs regarding debris management.

NC The Division of Coastal Management and Big Sweep education efforts have targeted the state's beach and boating population. Generally, coastal cleanup statistics show an overall reduction in the volume of some debris items.

PA The Pennsylvania Fish and Boat Commission constructed one boat pumpout facility in the Delaware Estuary Coastal Zone and two pumpout facilities in the Lake Erie Coastal Zone. Information brochures, posters, signage, and a directory of pumpout facilities were also developed for boaters' use.

PR Anti-littering programs and activities have been initiated. An annual Playalimpiadas exercise is conducted with the Puerto Rico Hotel and Tourism Association as an element of the Annual Coastweek

Program. The Department of Natural and Environmental Resources includes instructions concerning marine debris in the boating safety course that is mandatory for all purchasers of recreational boats.

RI The Coastal Resources Council has published an *Environmental Guide for Marinas* which sets out a step-by-step process for addressing potential pollution problems at marinas.

SC South Carolina's Office of Ocean and Coastal Resource Management instituted the Adopt-a-Beach program to reduce litter on beaches through volunteer efforts and to increase public awareness about the need to prevent degradation of the beaches through litter control. Office staff are currently producing a brochure for recreational boaters which includes language on proper management of fish waste and litter.

VA The State has assisted a number of local education projects including the Hampton roads Planning District that developed an educational guide entitled *Nonpoint Source Pollution-Be a Part of The Solution* to educate citizens about nonpoint pollution and how they can help reduce it. The Fauquier Outdoor Education Association is conducting a project that specifically educates students about the waste stream and how inland debris can become marine debris. Another cleanup campaign, called Citizens Responsibly Acting for the Bay (CRAB), will target residents of three Hampton neighborhoods to prevent household pollution of the Bay through cleanups, workshops on lawn care, and the opportunity for residents to monitor water near their homes.

USVI The Anti-litter and Beautification Committee began subsidizing aluminum can recycling. Grants are issued to individuals to establish redemption centers.

309 strategy

AL Continued public education at all levels is necessary to inform policy-makers as well as citizens of the ramifications of trash and debris in the coastal environment

AS The main thrust of the ASCMP in dealing with marine debris has been through environmental education programs such as Coastweeks and Le Tausagi, a traditional theatrical troupe.

CNMI Produce and distribute commercials, pamphlets and public service announcements emphasizing the need for the public participation in protecting the coastal environment.

ME Expand the number of volunteers and miles covered in the annual Coastal Cleanup by working in partnership with public and private organizations and the commercial fishing industry. Expand public awareness of the marine debris issue by targeting education efforts at major marine users groups such as fishermen, beachgoers, and boaters.



***obstacles/
needs***

AL Alabama could benefit from a Derelict Vessels Management Program to inventory and remove these vessels from state waters. Stricter land use and maintenance, site clearing and erosion control measures should be instituted and enforced.

AK The solutions to the marine debris problem in Alaska are increased capital funding for reception facilities at harbors, increased enforcement of MARPOL, and increased public awareness. Marine debris also does not have the attention or support of top-level state agency administrators.

AS Marine debris needs to be incorporated in the planning process and needs to be consistent with MARPOL.

BCDC Due to ongoing budget and staff constraints, BCDC is unable to assign resources to the debris issue.

CA Adequate funding is needed to assure continued education and volunteer-based efforts on marine debris. Improved coordination among jurisdictions would enhance the Coastal Commission's marine debris program.

CNMI The continued substandard operation of the Puerto Rico dump is the major gap in reducing the amount of marine debris in the coastal zone. CNMI needs to provide for collection service and enough trash receptacles at shoreline areas to reduce littering.

CT None

DE None

FL Continued funding is needed to promote litter reduction programs.

GU The lack of a solid waste management plan creates a major gap in dealing with marine debris.

HI There is a lack of funding and support for developing Hawaii markets for recycled materials.

LA None

ME There is a lack of public recognition that marine debris is a problem. The State statute that prohibits meddling with lobster equipment hampers efforts to clean the coast of lobster traps that have broken loose and washed ashore.

MD There is a need to address ways to capture the debris upriver before it comes through the hydroelectric dams on the Susquehanna River.

MA Impacts from debris sources other than beachgoers are not well understood. More study needs to be done to accurately evaluate impacts from lost fishing gear and the shipping industry. With the current availability of resources, there is little room for improvement in the COASTSWEEP and Gulf of Maine Council on the Marine Environment programs.

MI None

MS None

NH The issue of marine debris is not well defined (lacks a management framework) and is not documented in a scientifically credible way because there is no comprehensive organized effort to collect data. Some data is collected during the annual coastal cleanups.

NJ There is a need to continue to develop and improve public education and outreach programs on the impacts of marine debris and nonpoint sources of pollution.

NY None

NC There is insufficient law enforcement effort at the state level.

OR None

PA None

PR No data are recorded on the volume, weight and types of debris collected during beach cleaning. The Commonwealth does not have statutes related to reduction of marine debris, as such.

RI None

SC None

USVI The Department of Planning and Natural Resources should coordinate with private entities to work out a territory-wide solution to marine debris and its impact on the coastline. The Department should continue to work with other agencies on anti-litter campaigns and assist the Department of Public Works with its recycling campaign and its effort to find alternate ways to dispose of solid waste and relocate the sanitary landfills.

VA The major need in reducing marine debris in Virginia appears to be source reduction. Local government enforcement of disposal and litter laws and educational programs are needed, especially for citizens inland in the watersheds that feed the Bay. There is a lack of systemic data collection for trend analysis and a lack of clear evidence of why the amount of marine debris collected during cleanups is increasing.

WA Major gaps in addressing marine debris are budgetary and the perception that marine debris is not a major problem in the State.

WI none

appendices

**STATE
MARINE DEBRIS
CHANGES AND STRATEGIES**

STATE	RESEARCH ASSESSMENT		PLANNING		REGULATORY		NON - REGULATORY		OUT REACH	
	• s since '92	Current 309 Strategy	• s since '92	Current 309 Strategy	• s since '92	Current 309 Strategy	• s since '92	Current 309 Strategy	• s since '92	Current 309 Strategy
Alabama					•				•••	%
Alaska			••		••		•		••	
A. Samoa			••		••		•••		•	%
BCDC			•		•		•			
California			•					%	•	
CNMI		%	••	%	•		•		•	%
Connecticut					•		•••		•	
Delaware					•		•		••	
Florida					•		•		•••	
Guam			•		••				•••	
Hawaii	•				••				•••	
Louisiana							••			
Maine					••		•		•••	%
Maryland							•			
Massachusetts	•		•						••	
Michigan					•					
Mississippi					•••		•		•	
New Hampshire							•	%	•••	
New Jersey					•				••	
New York			•		•		%		•	

STATE	RESEARCH ASSESSMENT		PLANNING		REGULATORY		NON - REGULATORY		OUT REACH	
	• s since '92	Current 309 Strategy	• s since '92	Current 309 Strategy	• s since '92	Current 309 Strategy	• s since '92	Current 309 Strategy	• s since '92	Current 309 Strategy
North Carolina					•				•	
Oregon							•••			
Pennsylvania			•		••••				•	
Puerto Rico							•••		•	
Rhode Island					•••				•	
South Carolina		%%						%	••	
USVI					••				•	
Virginia	•				•		•		•••	
Washington	No	Changes								
Wisconsin	No	Changes								

% 309

• non-309

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